NPS-GSBPP-06-013

NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

A Diagnostic Approach to Building Collaborative Capacity in an Interagency Context

September 25, 2006

by

Dr. Gail Fann Thomas, Associate Professor

Dr. Susan Page Hocevar, Associate Professor

Dr. Erik Jansen, Senior Lecturer

THIS PAGE INTENTIONALLY LEFT BLANK

Naval Postgraduate School
Monterey, California

Colonel David A. Smarsh
Acting President

Leonard A. Ferrari, Ph.D.
Provost

The Acquisition Chair, Graduate School of Business & Public Policy, Naval Postgraduate School supported the funding of the research presented herein.

The report was prepared by:

_____
Dr. Gail Fann Thomas, Associate Professor
Graduate School of Business & Public Policy

_____
Dr. Susan Page Hocevar, Associate Professor
Graduate School of Business & Public Policy

_____
Dr. Erik Jansen, Senior Lecturer
Graduate School of Operational and Information Sciences

Reviewed by:

_____
Robert N. Beck
Dean, Graduate School of Business & Public Policy

Released by:

_____
Dan C. Boger, Ph.D.
Acting Dean of Research

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE

Form approved
OMB No 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	25 September 2006	1 October 2005 – 30 September 2006

4. TITLE AND SUBTITLE
A Diagnostic Approach to Building Collaborative Capacity in an Interagency Context

5. FUNDING

6. AUTHOR (S)
Dr. Gail Fann Thomas, Associate Professor
Dr. Susan Page Hocevar, Associate Professor
Dr. Erik Jansen, Senior Lecturer

7. PERFORMING ORGANIZATION NAME (S) AND ADDRESS (ES)
NAVAL POSTGRADUATE SCHOOL
GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY
555 DYER ROAD
MONTEREY, CA 93943-5103

8. PERFORMING ORGANIZATION REPORT NUMBER
NPS-GSBPP-06-013

9. SPONSORING/MONITORING AGENCY NAME (S) AND ADDRESS (ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words.)

Federal Acquisition Reform has consistently called for more and better collaboration among participating organizations. Experience shows, however, that inter-organizational collaboration can be difficult at best. Our research focuses on imperatives of successful collaboration and aims to assist organizations in diagnosing their collaborative capacity. Based on prior research with homeland security organizations, we offer a model of inter-organizational collaborative capacity grounded in a systems perspective. We then identify enablers and barriers that contribute to collaborative capacity. A diagnostic process based on the established practices of organization development is offered to guide the design of tailored assessments of collaborative capacity. We present a comprehensive set of both interview and survey questions, based on our model, which can be used in creating a collaborative capacity audit. The ability to diagnose collaborative capacity encourages literacy around collaboration and assists leaders in determining mechanisms for developing their organization's collaborative capacity. Finally, we describe the future plans for validating these assessment tools.

14. SUBJECT TERMS	15. NUMBER OF PAGES
interagency collaboration; inter-organizational collaboration; collaborative capacity	49
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT:	18. SECURITY CLASSIFICATION OF THIS PAGE:	19. SECURITY CLASSIFICATION OF ABSTRACT:	20. LIMITATION OF ABSTRACT:
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNLIMITED

THIS PAGE INTENTIONALLY LEFT BLANK

Abstract

Federal Acquisition Reform has consistently called for more and better collaboration among participating organizations. Experience shows, however, that inter-organizational collaboration can be difficult at best. Our research focuses on imperatives of successful collaboration and aims to assist organizations in diagnosing their collaborative capacity. Based on prior research with homeland security organizations, we offer a model of inter-organizational collaborative capacity grounded in a systems perspective. We then identify enablers and barriers that contribute to collaborative capacity. A diagnostic process based on the established practices of organization development is offered to guide the design of tailored assessments of collaborative capacity. We present a comprehensive set of both interview and survey questions, based on our model, which can be used in creating a collaborative capacity audit. The ability to diagnose collaborative capacity encourages literacy around collaboration and assists leaders in determining mechanisms for developing their organization's collaborative capacity. Finally, we describe the future plans for validating these assessment tools.

Keywords: interagency collaboration; inter-organizational collaboration; collaborative capacity

THIS PAGE INTENTIONALLY LEFT BLANK

Acknowledgements

The authors would like to acknowledge the support offered by the Acquisition Research Program of the Graduate School of Business and Public Policy at the Naval Postgraduate School. Particular thanks to go RADM Jim Greene, Acquisition Program Chair and the DoD sponsors who contributed funding for this research. We also appreciate the contributions made by our colleague Dr. Rene Rendon. A final thanks to Ms. Karey Shaffer and the staff for their assistance.

THIS PAGE INTENTIONALLY LEFT BLANK

About the Authors

Gail Fann Thomas is an associate professor in the Graduate School of Business and Public Policy at the Naval Postgraduate School. She received an EdD at Arizona State University in Business and Education in 1986. She currently teaches strategic communication in the MBA program at NPS and in the Navy's Corporate Business Program. Since arriving at NPS in 1989, she has been involved in a numerous research projects that focus on management and leadership communication dilemmas.

Gail Fann Thomas
Associate Professor
Graduate School of Business and Public Policy
Naval Postgraduate School
Monterey, CA 93943-5197
Tel: (831) 656-2756
E-mail: gthomas@nps.edu

Susan Page Hocevar is an associate professor in the Graduate School of Business and Public (GSBPP) at the Naval Postgraduate School. She received her PhD in organization and management at University of Southern California in 1989. She currently teaches courses in organizational behavior, negotiation and consensus building for programs in GSBPP, the NPS School of International Graduate Studies, and the NPS Defense Analysis program, as well as the Navy's executive Corporate Business program. Her research programs currently include the ONR-sponsored Adaptive Architectures for Command and Control and inter-organizational collaboration.

Susan Page Hocevar
Associate Professor
Graduate School of Business and Public Policy
Naval Postgraduate School
Monterey, CA 93943-5197
Tel: (831) 656-2249
E-mail: shocevar@nps.edu

Erik Jansen is a senior lecturer in the Graduate School of Operations and Information Sciences at the Naval Postgraduate School. In 1987, he received his

PhD from the University of Southern California in organization and management. He currently teaches organizational theory and design and command and control. His research has been in the area of organizational design, emphasizing organizational reward systems and careers in the context of innovation.

Erik Jansen
Senior Lecturer
Graduate School of Operations and Information Sciences
Naval Postgraduate School
Monterey, CA 93943-5197
Tel: (831) 656-2623
E-mail: ejansen@nps.edu

ACQUISITION RESEARCH SPONSORED REPORT SERIES

A Diagnostic Approach to Building Collaborative Capacity in an Interagency Context

September 25, 2006

by

Dr. Gail Fann Thomas, Associate Professor

Dr. Susan Page Hocevar, Associate Professor

Dr. Erik Jansen, Senior Lecturer

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

Introduction

Complex interagency[1] collaboration is characterized by high task uncertainty, multiple participants, virtual communication and diverse organizational goals. As organizations increase their dependence on one another and attempt to increase their performance, interagency collaboration is viewed by many as an imperative. In the federal government, for instance, the Federal Acquisition Reform has consistently called for more and better collaboration among participating organizations. Partnering, Alpha Contracting, Integrated Product Teams, and Delta Contracting are but a few examples of innovative arrangements that currently are being used to increase interagency collaboration among agencies.

In government and industry, collaboration is on the rise because it has been found to reduce litigation, decrease costs, and increase innovation (Mankin, Cohen & Fitzgerald, 2004). Accordingly, some organizations have developed mature partnering arrangements or alliances and have demonstrated that these arrangements can significantly reduce cycle-time and save millions of dollars. Other organizations have not yet positioned themselves to leverage the benefits of collaborative relationships.

Our research focuses on imperatives of successful collaboration and aims to assist organizations in diagnosing their collaborative capacity. Diagnosing collaborative capacity encourages literacy around collaboration and assists leaders in determining capabilities that the organization must develop to be successful. This paper describes what we mean by the term "collaborative capacity," explains key factors for successful collaboration, and shows how our diagnostic tool can leverage learning for an organization.

[1] "Inter-organizational" can be substituted for "interagency" when referring to private/public-sector partnerships.

What is Collaborative Capacity?

Collaborative capacity, as it relates to interagency collaboration, resonates in the work of a number of academics and practitioners (e.g., Bardach, 1998; Huxham, 1996; Mowery, Oxley & Silverman, 1996; Seidman, 1970). *Collaborative capacity is the ability of organizations to enter into, develop, and sustain inter-organizational systems in pursuit of collective outcomes.* A capacity for collaboration enhances the probability of mission completion by leveraging dispersed resources. The benefits of developing collaborative capabilities include: cost savings through the transfer of smart practices, better decision making as a result of advice and information obtained from colleagues, enhanced capacity for collective action by dispersed units, and innovation through the cross-pollination of ideas and recombination of scarce resources (Hansen & Nohria, 2004).

When is Collaboration Most Beneficial?

Collaboration is most beneficial when organizations are interdependent and rely on each other to achieve a common goal or task. This reliance provides an opportunity for organizations to coordinate their work and find ways to work well with one another. While collaboration appears on the surface to be an obvious solution, experience shows that organizations commonly fail when they attempt to build collaborative relationships. Among the reasons for ineffective collaboration are: diverse missions, goals and incentives that conflict with one another; histories of distrust that are hard to alter; leaders who do not actively support collaborative efforts; and the lack of coordination systems and structures needed to support collaborative efforts (US Government Accountability Office, 2002, December). Hurricane Katrina relief was a dramatic example of the consequences of failed collaborative efforts.

Relevance of Collaborative Capacity to Acquisition

Acquisition Reform initiatives have consistently called for more and better collaboration among participating acquisition agencies as well as between the DoD and defense contractors. Specifically, the DoD Directive 5000.1 (The Defense

Acquisition System, paragraph E1.2, Collaboration, 2003) points out that “DoD acquisition, capabilities, and financial communities, and operational users shall maintain continuous and effective communications with each other by using IPTs.” In addition, DoD 5000.1 states that teaming among warfighters, users, developers, acquirers, technologists, testers, budgeters, and sustainers shall begin during the capability needs definition phase of the acquisition lifecycle. Furthermore, the recent Defense Acquisition Performance Assessment (DAPA) report recommends improved collaboration among acquisition organizations as well as between the DoD and industry (Deputy Secretary of Defense, 2006). As DAPA recommendations are implemented, additional collaboration requirements and opportunities will emerge.

Goal of this Research

The focus of this phase of the research project is the development of a collaboration-readiness assessment. This instrument will allow organizations to assess their capacity to engage in collaborative efforts and then provide specific activities for improving their collaborative capacity.

THIS PAGE INTENTIONALLY LEFT BLANK

Collaborative Capacity Model

Our Previous Interagency Research

The first phase of our research employed a semi-inductive method where we conducted two studies with senior leaders in the Department of Homeland Security (DHS) to learn more about organizations' collaborative capacity during the early planning stages. In Study One, we used an inter-organizational systems perspective to identify factors that create or deter effective collaboration. Study Two elicited vignettes from a second group of DHS leaders to gain further insights into the ways in which their organizations are successfully building collaborative capacity.

Enablers and Barriers to Developing Interagency Collaboration

Our study of senior leaders in homeland security identified key factors that explain success (enablers) and barriers to interagency collaboration (see Figure 1) (Hocevar, Thomas & Jansen, 2004). The left-hand column names the organization design component as identified in our systems model above. The column identified as "driving forces" lists the factors that contribute most to successful interagency collaboration. The column identified as "restraining forces" includes the factors that impede collaboration.

Our analysis uses Lewin's "force field" analysis model which was developed over 50 years ago and is still viewed as the prominent way of explaining the forces of a change process (McShane & Van Glinow, 2005). In this case, the model provides a framework for examining the enablers and barriers to developing interagency collaboration and demonstrates how driving forces and restraining forces work to maintain an equilibrium or status quo effect. If an organization chooses to increase its collaborative capacity, it must create a condition where the driving forces are stronger than the restraining forces. This would mean that the driving forces must be strengthened and/or the restraining forces must be weakened or removed.

Figure 1. Force-field Analysis for Building Collaborative Capacity

	DRIVING FORCES 	RESTRAINING FORCES 	DESIRED END RESULT
Organization design component	***"Success" factors that contribute to collaborative capacity***	***"Barriers" that inhibit collaborative capacity***	
Purpose & strategy	- "Felt need" to collaborate - Common goal or recognized interdependence - Adaptable to interests of other organizations	- Divergent goals - Focus on local organization over cross-agency (e.g., regional) concerns - Lack of goal clarity - Not adaptable to interests of other organizations	Collaborative capacity that leads to high performance
Structure	- Formalized coordination committee or liaison roles - Sufficient authority of participants	- Impeding rules or policies - Inadequate authority of participants - Inadequate resources - Lack of accountability - Lack of formal roles or procedures for managing collaboration	
Lateral mechanisms	- Social capital (i.e., interpersonal networks) - Effective communication and information exchange - Technical interoperability	- Lack of familiarity with other organizations - Inadequate communication and information sharing (distrust)	
Incentives	- Collaboration as a prerequisite for funding or resources - Leadership support and commitment - Absence of competitive rivalries - Acknowledged benefits of collaboration (e.g., shared resources)	- Competition for resources - Territoriality - Organization-level distrust - Lack of mutual respect - Apathy	
People	- Appreciation of others' perspectives - Competencies for collaboration - Trust - Commitment and motivation	- Lack of competency - Arrogance, hostility, animosity	

Enablers to Success

"Purpose and strategy" can be driven by a commonly perceived risk or threat ("felt need") or a common goal such as improving information sharing or coordinated training. Accomplishing a shared purpose is enabled by the third factor in this category—the willingness to adapt the collaborative effort to the needs and interests of other participating organizations.

The "structural" component includes the formal power and authority of those engaged in an interagency collaboration. We found that successful interagency collaborations had formalized coordination of liaison roles, and players had sufficient authority.

"Lateral Mechanisms" are another factor that contributes to success. Social capital represents the interpersonal trust and exchange orientations that come from human interaction, which provides an important foundation for civic behavior (e.g., Adler & Kwon, 2002; Putnam, 2000). We classified social capital as a lateral mechanism within the organization design framework. Effective communication also was identified as a related lateral mechanism. Some characterizations of effective communication include: timely dissemination of information, free flow of information, and the establishment of communications systems and processes across organizations. Effective communication, along with the increased familiarity that comes with interpersonal networks, provides an important means for collaboration. In addition to human communication, technical interoperability contributes to success.

"Incentives" was the fourth category of success factors. In our study, collaboration often was a prerequisite for obtaining resources. For instance, agencies might be required to develop a multi-agency coalition in order to receive a grant. While this does not guarantee success, it creates an opportunity to develop other important collaborative capabilities. Collaborating in the development of a grant proposal is a focused, time-limited activity with clearly identified "payoffs." The process of this effort can generate a better understanding of other organizations' interests and capabilities, create social capital as interpersonal relationships are

developed, and set the stage for the creation of temporary or permanent structures for collaboration and information exchange. Incentives to collaborate can be achieved through mandates or external requirements for funding (Cummings, 1984). Another incentive to collaborate is strong leadership. A leader who clearly expresses commitment to a vision of collaboration with other agencies can provide an important incentive for other organizational members to engage in this "new" activity. This is similar to the acknowledged role of leadership in effective change management (e.g., Kotter, 1990). Other success imperatives included an absence of competitive rivalries and an acknowledgement of the benefits of collaborative efforts.

The last category of success factors is "People." A primary characteristic of those who participate in successful collaborative efforts is an appreciation of others' perspectives. In other words, players are able to step outside their own narrow interests and appreciate other's views. Successful players develop competencies for collaboration and are able to build trust among the various players. Commitment and motivation are also keys to success.

Barriers to Collaboration

Barriers to collaboration substantially reinforce the factors identified as contributing to success, even though they are not an exact replication of the capabilities described above.

Under "Purpose and Strategy," divergent goals impede interagency collaboration. Related to that is a lack of goal clarity. Opposed to the earlier success factor of recognizing other's interests, barriers arise when players focus on their own organization's interests at the expense of a broader set of interests or a common goal. Even when others' interests are recognized, the unwillingness or inability to adapt to interests of the other organizations is another barrier.

While mentioned less frequently, other barriers to effective interagency collaboration are classified as Structural. Specific examples include: procedural prohibitions such as security classifications, lack of formal roles and procedures to

enable collaboration, inadequate authority of participants to engage in negotiation or decision-making on behalf of their organization, and lack of accountability. Most of these are indicators of problems that can exist in “under-designed” systems (Cummings, 1984). Because well-established, institutional mechanisms for coordination are unlikely to exist or are likely to be underdeveloped in extra-organizational relationships, the importance of leadership, followership, and colleagueship (i.e., the capacity for mutual adjustment) is increased.

Two barriers identified in the category of “Lateral Mechanisms” are “Lack of familiarity with other organizations” and “Inadequate communication and information sharing” which both represent missing enablers of collaboration. Some participants identified distrust as a cause of inadequate communication. Distrust is sometimes characterized at the organizational level, as in “the organizations have a history of distrust.” As an organization-level phenomenon, we also view this as a disincentive to collaboration and, thus, categorized this factor as a barrier under “Incentives.” Other times, the participants attributed distrust to individuals; in this case, we categorized the factor into the design dimension of “People.” Behaviors that are both instigators and symptoms of distrust included “Arrogance, hostility, and animosity” in the People category and “Lack of mutual respect” when attributed to organizations (in the Incentives category).

Two other frequently cited barriers were “Competition for resources” and “Territoriality and turf protection.” These two factors were categorized as (dis)incentives. These factors are related to the Lateral Mechanisms and People factors described above. While the causal relationship is not definitive, a clear relationship exists among competition/territoriality and lack of familiarity, inadequate communication, and distrust. Together, these system dimensions can create a continuing cycle of dysfunction. When organizations are competitive, distrustful, or just unfamiliar with each other, this can impede necessary communications. The inadequacy of communications, in turn, continues the lack of familiarity, or in the more extreme cases, can increase distrust. This suggests that specific interventions

to disrupt this cycle and shift the alignment toward constructive interactions are necessary to build collaborative capacity.

Model of Collaborative Capacity

Drawing on relevant literature and other experts in the field, we deductively developed a framework to map the conditions for effective interagency collaboration. We try to capture the dynamic interaction among all of these factors in the image presented in Figure 2. This diagram shows two organizations (A and B) facing a problem in which they have some interdependent interest or responsibility. Each organization can be represented in terms of the five organization design components derived from Galbraith (2002). The arrows indicate the dynamic interaction among the system elements both within and between organizations as they contribute to the collaborative capability to meet interagency goals.

The dynamic interactions occur in at least three domains. First, effective collaborative capacity requires that the five system design categories (Strategy, Structure, Incentives, Lateral Mechanisms and People) for each participating organization be aligned with each other and with the environmental requirement or challenge (cf. Nadler & Tushman, 1980). This is reflected in the arrows within each of the three pentagons. However, because the problem assumes interdependence among multiple organizations, developing collaborative capacity cannot be accomplished by focusing solely on the dynamics within each organization. Alignment also needs to occur among the system elements *across* organizations. Finally, temporary or permanent interagency structures are frequently established to better enable the collaborative response to the common problem. In such a case, a third domain of interaction needs to be developed so that the design characteristics of the interagency task force or team are not only internally consistent, but also are aligned with the primary organizations they represent (Hocevar, Thomas & Jansen, 2006).

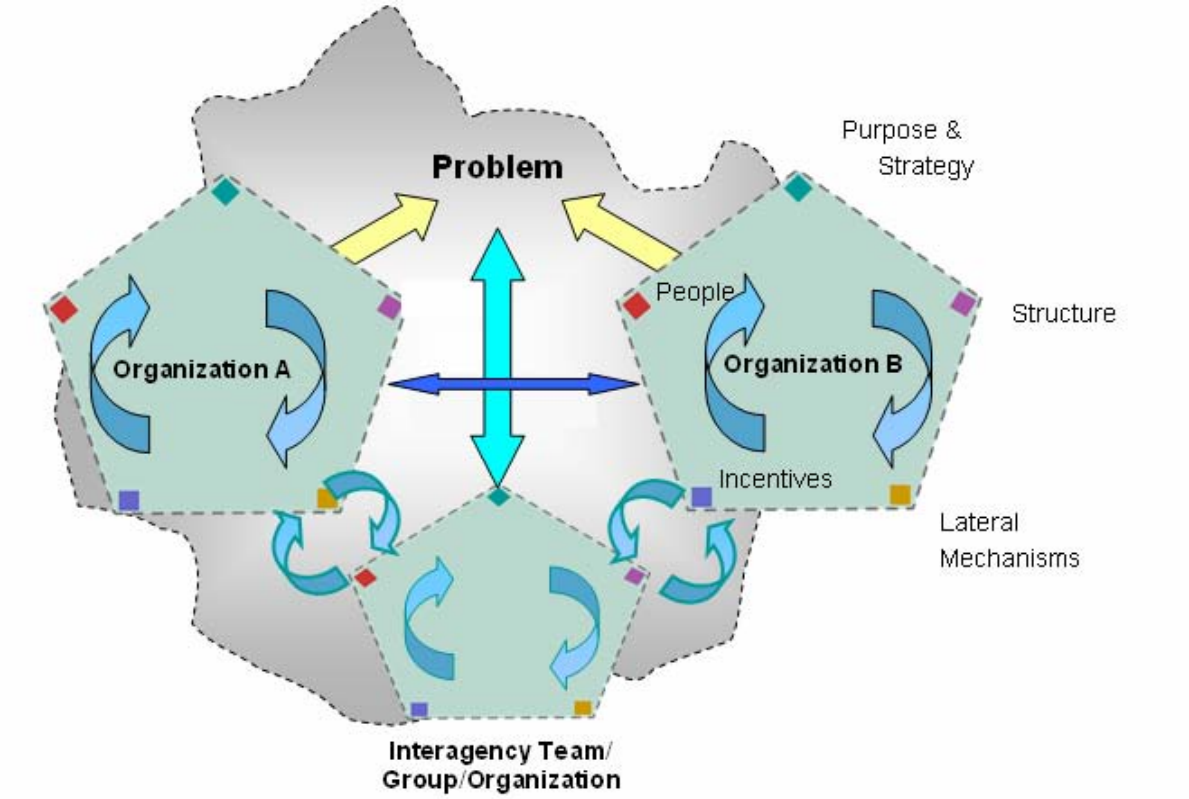

Figure 2. Developing Organization Design Dynamics to Improve Collaborative Capacity

THIS PAGE INTENTIONALLY LEFT BLANK

Diagnosing Collaborative Capacity as an Organization Development Process

Rationale for Diagnosis

We have shaped the process presented here for using the collaborative capacity readiness assessment around the well-established principles of organization development. According to Beckhard (1969), organization development (OD) is a planned effort of systematic diagnosis involving the whole system (i.e., structures and processes at different levels of the organization) with the goal of using the diagnostic data to improve organizational effectiveness. The specific effectiveness goals for OD can be wide-ranging. But, in the case of this project, the diagnostic focuses on improving interagency collaboration.

The diagnostic process can inform and enable organizational change in many ways. First, theoretical models and prior research are used to design the diagnostic tools (e.g., French & Bell, 1999; Harrison, 1994). This insures that the measurement instruments incorporate key variables known to relate to the change area of interest. Many OD diagnostics are structured around a systems model (see, e.g., Burke, 1992; Weisbord, 1976) to provide a conceptual framework for the instrument design and analysis. Similarly, the model used for this project roughly follows the "star model" of Jay Galbraith (2002) (See Figure 2). But other models, such as Weisbord's Six Box Model contain similar dimensions: Purposes, Structure, Rewards, Mechanisms (i.e., coordinating technologies), Relationships (e.g., conflict management), and Leadership (French & Bell, 1999); these provide further conceptual validation for the diagnostic instrumentation presented in this report.

The second way in which the diagnostic process can guide and enable organizational change is through a "gap" analysis (e.g., Harrison, 1994). In consultation with the client organization(s), the diagnostic process identifies the desired future state—why change is needed and ways in which improvements will be demonstrated. The assessment tools are tailored to the particular interests and

requirements of the participating organization(s). Data are then gathered to assess the "current state" of the organization (or system of organizations). This assessment should not just focus on problem areas (deficits) that need to be addressed, but also on potential assets and capabilities that can enable the desired changes.

The gaps between the desired future and the current state assessment are used to identify potential intervention options and develop specific action plans. The initial assessment establishes a baseline that can be used to evaluate progress toward the desired goals after the implementation of interventions. The assessment also allows the opportunity for comparisons across organizational levels and units. For example, it may be worthwhile to investigate the extent to which top-level managers' assessment of collaborative capacity is similar to those of front-line workers. Also of interest could be a comparison of those whose work involves them with counterparts in other organizations/agencies with those who have less frequent contact. These analyses can inform the appropriate interventions for improving collaborative capacity.

In addition to the aforementioned benefits of systematic diagnosis, the process itself can be an intervention. For example, organizational members become sensitized to the importance of the issues being assessed (Downs & Adrian, 2004). An organization's investment in and commitment to an assessment of collaborative capability would indicate that these are important goals and valued activities. This, in turn, could increase organization members' motivation toward these goals and activities. The motivation might be intrinsic due to the heightened appreciation for the meaningfulness of interagency collaboration. The motivation might also be the result of an increased expectation that there will be extrinsic rewards (e.g., career advancement opportunities) to those who increase their engagement in ways to improve effective collaboration (Nadler, 1977).

The diagnostic process is also a mechanism for organizational learning. Assuming the results are shared within the organization, the data allow for self-evaluation by members. Behavior becomes more observable due to the framing and focus offered by specific questions (Nadler, 1977). Downs and Adrian (2004)

describe the importance of creating a language for members to discuss collaboration. Senge (1992) emphasizes the value of the diagnosis in "catalyzing systems thinking." A significant step forward can be gained by organizational members thinking about how to respond to questions about the interests of potential (or current) collaboration partners, how their capabilities can enhance "our" organizational performance, and what barriers and opportunities influence "our" current practice of collaboration.

The questions included in the diagnostic provide new lenses or a more specifically defined way of describing current collaboration and desired collaboration. Thus, the language and terminology of questions provide another mechanism for learning, sharpening thinking about collaboration, and guiding actions to improve collaborative capacity. We often function on the basis of mental models comprised of generalizations or stereotypes (Senge, 1992). The diagnostic process provides a feedback loop that can challenge these mental models and help refine and reformulate those models based on valid data rather than on assumptions that often are unfounded or exaggerated.

Process for Organizational Diagnosis

According to Harrison (1994), an organizational diagnosis has three facets:

1) Process: a diagnostic plan to be designed with input from participating organization(s);

2) Interpretation: identification of specific mechanisms for analyzing findings, providing feedback, and enabling action planning;

3) Methods: the tools and techniques for gathering and analyzing diagnostic data.

The specific tools (i.e., Methods) for diagnosing collaborative capacity are described in the section below entitled "Collaborative Capacity Audit" and presented in detail in Appendix A. The remainder of this section focuses on initiating and implementing a

diagnostic process to include the design of a tailored plan for data gathering, feedback, and action planning.

Initiation Process

"Initiation" is the first phase (e.g., Downs & Adrian, 2004). This can be self-directed by internal members of an organization or may involve a third party researcher-consultant. Whether internally or externally managed, a similar set of questions must be addressed by both the people who are the critical decision-makers for proceeding with a diagnosis as well as a select few of those who have the most informed perspective in current and future interagency collaboration. The goal of the initiation phase is to uncover several issues: the relevant background and history, the motivation for the effort, expectations for the diagnostic process, specific contextual factors, identification of the counter-part organizations in the collaboration, the scope of the effort, and a timeframe. As a result of this initiation phase, there should be a determination of consensus and commitment.

If there is a decision to proceed, a broader set of key informants should be identified for interviewing. If there is an interagency team or task force in place, those members should be included. Some of the initial "background" questions are outlined in the "Interview" section of the discussion of the "Collaborative Capacity Audit" below. These questions would be included in the initiating discussion with key decision-makers described above. They could also be used as part of the data gathering from the key informants who have been identified to assist in the design of a uniquely tailored audit instrument.

Planning and Design of Assessment Procedures

Discussions with key leaders addressing the issues identified above establish the groundwork for the development of a specific diagnostic plan. The first step in the plan is the determination of who the planning team should be. If the diagnostic design is largely in the hands of researcher/consultant, the participating organization will decide the extent to which it wants to leave the design to these external experts or be actively involved in the decision-making. At a minimum, a liaison from within

the participating organization(s) should be identified to interface with the researchers/consultants.

The diagnostic plan should begin with the identification of diagnostic “targets” (French & Bell, 1999). These “targets” include systems elements of particular interest (e.g., strategy, incentives, lateral mechanisms) which may have been identified in the initial entry phase. Others may be identified as the result of interviews with key informants. Once target topics are identified, specific tailoring of items is done to meet the particular interests of the focal organization(s). This includes the definition of interview questions and survey questions. This can be done in an iterative fashion by conducting some preliminary interviews with key informants. The results of these interviews can then be used to define and refine the questions to be used on the survey.

Diagnostic targets are not only topical; they also include the identification of personnel (both inside and outside the organization) who should be asked to participate in interviews, focus groups, or by taking a survey. Because these methods all provide data of a different sort, people can be asked to be involved in more than one of the assessment processes. Most important, however, is that sufficient participation is included to provide a valid assessment of the collaborative capability of the system (organization or set of organizations) of interest. The diagnostic design could include gathering data from partner organizations about their perceptions and experiences regarding the collaborative capacity of the focal organization. This approach poses a more complex design and analysis challenge. But, if the primary interest is in collaborative capacity in the context of a given partnership or network of relationships, then this should be considered.

An important aspect of the plan is how the organization members will be informed as to the purpose of the diagnostic effort, the plan for giving feedback, and the intentions to take action based on the results of the assessment. It is important that this effort be publicized well in advance of its initiation and that there be clear justification presented as well as support by organizational leadership. All of these factors are critical to the ultimate validity of the findings.

Interpretation, Feedback and Action Planning

Once all of the assessment data have been collected, they need to be summarized and interpreted. The degree of involvement of the focal organization(s) will vary depending on the agreement established at the initiation phase. There are a number of ways this can be approached. The external researchers/consultants can take the primary responsibility for both the analysis and the interpretation. Or, they may prepare the results of the analyses for presentation in a feedback session in which organizational participants are actively engaged in interpreting the findings. Because the external experts will likely bring both perspective and knowledge of existing research related to effective interagency collaboration, and the organizational members bring the vital internal perspective, a process that engages both groups in interpretation can be the most productive. If a joint approach to interpretation is taken, one decision is who to include from inside the organization. The key leaders and key informants used in the initial phase of the effort are one possible group. They could prepare a summary and interpretation presentation to then share as feedback to a broader audience of organizational members. Alternatively, a more inclusive participative process could be used to involve a larger number of organizational members in the interpretation of the findings.

Regardless of who is involved in the analysis and interpretation, some key questions should be addressed. How well does the assessment of collaborative capacity match what has been identified as necessary or desirable? What areas of the systems model show the strongest capability? The weakest? Are there noteworthy differences in the results when different organizational groups are compared (e.g., top leaders, middle managers, operating core)? Do those members of the organization who have the most opportunity to interact with other organizations assess the collaborative capacity differently? How? As noted in the discussion above of the Rationale for Diagnosis, these questions (and others) are necessary to the next phase in the diagnostic process—action planning.

The key question being addressed in interpretation" is, "What do the assessment results mean"? In action planning, the question is, "What do we do

about it"? The organizational members engaged in action planning may be different (or in addition to) those who were involved in the interpretation. It is important to involve members in deciding what action to take if their commitment or capabilities are necessary to the implementation of the action plan. Feedback about the diagnostic process should include not only the results and interpretation of the assessments, but also the interventions identified as part of action planning. Ongoing communication through the implementation of action planning is also important if the diagnostic process is to contribute broadly to organizational learning (Downs & Adrian, 2004; Senge, 1992).

Method

The third facet of organizational diagnosis identified by Harrison (1994) concerns the assessment methods and tools used. A general presentation of tools and methods has been integrated into the discussion above of the first two facets. The method we used to develop the specific tools presented in this report was initiated by a study we conducted with agency managers concerned with inter-organizational collaboration related to homeland security and defense. We also drew on the extant literature to develop the items in Appendix A. A more complete list of references that influenced our thinking can be found in Hocevar, Thomas and Jansen (2006). The section below presents illustrations of the detailed material included in Appendix A. Our intention is that this database of interview and survey questions will be used to formulate tailored instruments for diagnosis of the collaborative capacity of specific organizations or inter-organizational systems.

THIS PAGE INTENTIONALLY LEFT BLANK

Collaborative Capacity Audit

This section describes two data-gathering techniques that would be used to measure an organization's collaborative capacity: interviews and survey questions.

Interviews

Researchers/consultants who enter into an unfamiliar organization or a set of organizations need to understand the context those organizations face. In the interagency context, they must understand the problem context that brings the organizations together. The collaborative capacity model emphasizes the centrality of *the interagency problem* and the organizations' needs to eventually negotiate a *common understanding* and definition of this problem and their roles and responsibilities in addressing it. Understanding this context requires an understanding of the interests of various *stakeholders*.

- What is the central (initiating) problem or opportunity that motivates interagency collaboration?
- How does this problem create the need for collaboration?
- Who are the critical stakeholders, and what are their stakes in this context?
- Who are the key informants representing each?
- What is the degree of collaboration required?
- What type/kind of collaboration is required?
- What are the primary values or beneficial outcomes to be gained by collaboration?

Questions such as these would comprise the interview agenda at the initial entry phase. If researchers/consultants are involved, they would pose these questions to the leaders of the organization who are both in the best position to know the answers as well as responsible for the decision about engaging in the

investment of a diagnosis of collaborative capacity. If an organization (or set of organizations) is considering undertaking this effort on their own, these would be important questions to openly discuss among key leaders in deciding whether and how to proceed.

Once there is a commitment to proceed, additional key informants would be identified to be interviewed. They, as well as organizational leaders, would become the data sources for interview questions outlined in this section and offered in further detail in Appendix A. In the course of asking questions, a comprehensive history of the firms is produced. This includes a better understanding of their *history* of interagency interactions and the stage of development of their relationships. This is partly derived by looking at *member behaviors and interactions* (i.e., their network ties):

- How often does middle management meet with their counterparts about Interagency (IA) collaboration?
- What do they discuss or do when they meet?
- Do lower-level workers/first-line supervisors and workers for the organizations interact with each other?
- In what context?
- For what purpose? Do they build team relationships and joint skills?

A critical junction in developing collaborative capacity occurs within the IA team. Many questions asked of partner organizations are also relevant for the IA team. Indeed, a majority of the diagnostic questions with respect to the "organization" or the "people in the organization" could be rewritten so that the referent is the "IA team" or the "members of the IA team." Illustrative items that would assess specific on-going interagency activities include:

- Do the IA team members have the authority to make commitments to decisions?
- Are there established interagency procedures?

- What assets—in terms of people, technology, or money—have been dedicated to building collaborative capacity? Are these commitments increasing or decreasing or remaining stable?

Two points should be emphasized about the interview questions. First, some questions are likely to be asked of all individuals, while others are targeted to specific individuals. Thus, all individuals might be asked about the "nature and effectiveness of communications," but specific questions about infrastructure and physical technology (e.g., radio frequencies, wireless networks) would be asked of specific people most familiar with these issues. Second, questions might be asked in the context of individual interviews or in the context of focus groups, depending on the design decisions made by the client organizations during the initial entry and planning phases discussed above.

Additional questions are listed in the data base printout in Appendix A: Diagnostic Questions for Measuring Collaborative Capacity in an Interagency Context.

Audit/Survey Questions

Appendix A includes a wide range of survey questions that were constructed to fit the dimensions mentioned in Phase I of our research. Most of the questions were original questions written by the three authors of this paper. In some cases questions were adapted from the following source documents. The database identifies the particular items that were derived from the source documents.

Cisco's Net Ready: *Net Ready* (2000) offers 11 guiding principles for developing seamless interactivity for the e-conomy. A Net Ready Scorecard allows organizations to test their "net readiness."

Collaboration Among Federal Agencies. This GAO report, *Results-Oriented Government* (2005), offers best practices in the Federal Government for enhancing and sustaining collaboration.

Collaboration Inventory Thomas (2002) developed a questionnaire for a management development program on interagency collaboration. This instrument was adapted from Wilder Foundation's Collaboration Factors Inventory.

Collaborative Advantage: Hansen and Nohria (2004) surveyed executives from 107 companies to determine the degree of collaboration within their firms and to assess whether they were using management levers to encourage collaboration.

Collaborative Capacity. Foster-Fishman, Berkowitz, Loundsbury, Jacobson, and Allen (2001), surveyed articles, book chapters, and practitioner guides to develop an integrative framework of competencies and processes needed for building collaborative capacity.

The following discussion describes the six categories of questions that align with the systems model in Hocevar, Thomas and Jansen (2006). This model also is useful in thinking of the dynamics that may be involved in building collaborative capacity.

Purpose and Strategy

Purpose, mission, goals, values, and a "felt need" to collaborate provide a foundation for such items[2] as:

- Interagency collaboration is a high priority for this organization.
- We understand the benefits of collaboration for our organization.
- Interagency collaboration is a high priority for this organization.
- We understand the benefits of collaboration for our organization.
- We have clearly established goals for IA collaboration.

[2] Survey items are, for the most part, constructed with a Likert-type response structure. An example would be a 5-point rating scale where a 1 = strongly disagree and 5 = strongly agree.

- Our organization recognizes the importance of working with other agencies to achieve an outcome.
- We have clearly established goals for IA collaboration.

In constructing these general items, other related items were created that related to *planning, network ties, willingness to collaborate, and leadership*:

- Other agencies are identified and included in our planning process.
- Our organization has a strong network of relationships with key community leaders and policy makers.
- Our organization is willing to address cross-agency goals.
- Our organization is willing to invest in cross-agency goals.
- Our organizational leaders often meet and confer with the leaders of other agencies about mutual collaboration.
- Top leaders or our organization are committed to IA collaboration.

Collaborative Structure

Organizational structures focus largely on the *roles and responsibilities* that facilitate or serve as barriers to collaboration. *Formal control mechanisms* and coordination mechanisms, including *authority* and *standard operating procedures* are within this domain of the model. Survey items to assess the structural domain of collaborative capacity include:

- IA team members have sufficient authority so that IA decisions will be implemented.
- Employees up and down our chain work well together.
- Our organization is willing to adapt procedures to meet the requirements of other organizations with which we do IA work.
- Our organization has metrics in place that evaluate the organization-level costs of collaboration.

- We use cross-functional teams to solve key business problems.
- Conflicting organizational policies make collaboration very difficult.
- In this organization, we know our IA roles and responsibilities.

Also of critical importance within this domain are *resource and budgetary issues*:

- Our IA efforts have been very successful in finding and capturing available funding.
- Programmatic efforts to develop our collaborative know-how and skills receive a high priority for funding in our organization.

Social Capital through Lateral Mechanisms

In the case of collaboration, there is a special focus on lateral or horizontal mechanisms between organizations; these serve to coordinate through mutual adjustment. Lateral mechanisms can be formal or informal. Note that the emphasis is on mechanisms *between* organizations that develop social capital. The variables of importance that are reflected in these items include *network ties*, *information sharing*, *flexibility and adaptability*, *combined training* and *familiarity* with other organizations, and *technical interoperability*.

- Members of our organization have a good network of relationships with those in other organizations.
- People in this organization invest time and energy in building professional relationships with those in partner organizations.
- We provide access by other agencies to information we have that is relevant to their work.
- Our organization works with other agencies to identify lessons learned for improved collaboration.
- Our organization is responsive to the requirements of other organizations with which we work.

- Our organization invests time and resources to become familiar with the capabilities and requirements of our partner organizations.
- Our organization has the technical interoperability to enable effective IA collaboration.
- Our leadership commits their time and our resources to combined training with other agencies.
- Our organization commits human and financial resources to training with our IA partners.

These factors, working together, can become internalized into a *culture of collaboration*:

- Our organization has strong norms that encourage IA collaboration.
- Our organization has strong norms for learning from others.

Incentives to Collaborate

Incentives and disincentives are extraordinarily important if collaborative intent is to be translated into performance. Incentives serve both to align individual and organizational goals and to encourage inter-organizational collaboration. Although some individuals and organizations might collaborate because it is "the right thing to do," collaborative capacity is reinforced by incentive systems that support doing "the right thing."

At the individual level, collaboration is enhanced when organizational members perceive that it pays off in terms of *career outcomes*. If the time and energy individuals spend on collaboration is piled on top of their regular duties or is viewed as less than *legitimate*, individuals are effectively punished for their involvement. And if individuals are not held *accountable* for the quality of their contributions, then the process of developing trust and confidence among key players is threatened. *Leadership* is viewed as central in communicating the importance of collaborative actions and of modeling such actions themselves.

- Our organization rewards members for their IA collaborative activities.

- Collaborative work is acknowledged as a legitimate part of my work load.
- In our organization, collaborative activities and responsibilities are added on top of our regular work load.
- Collaborative work is acknowledged as a legitimate part of my work load.
- Our CEO often discusses the importance of IA collaboration with others in the organization.
- Leaders of this organization clearly value IA activities and reward good work in that area.

At the institutional and organizational level, the structure of incentives can shape and possibly determine whether organizations frame their interactions as collaborative or *competitive*. Indeed, some organizations have to overcome a history of competition while others have no such burdensome context.

- We gain discretionary resources because of the cost-savings associated with collaboration on technology and equipment.
- A significant motivation for our organization's involvement in IA collaboration is the opportunity for outside funding.
- Our collaborative partners often view us as competitors.
- Our organization is free of competitive rivalries with our partner organizations.

People

Although our focus is on collaboration at the inter-organizational level, collaboration involves people. For example, the capacity of an organization to share information also depends on the willingness of its people to *share information*. Adequate structural mechanisms are reflected in *role clarity*.

- People in our organization are unwilling to share information with others.
- When working on interagency issues, we often face incompatible requirements or requests.

- Our organization has established clear performance standards regarding interagency work.
- I have a clear understanding of my responsibilities relating to interagency collaboration.

Macro-level collaboration ultimately depends on the *perceptions*, *motives*, and *attitudes* of individual members, including *trust* and *respect*.

- Members of our organization are motivated to work with people from other organizations.
- People in our organization have a positive attitude toward collaboration with other organizations.
- People in our organization understand the benefits of collaborating with our organizational partners.
- People in our organization tend to be suspicious and distrustful of our partners in other organizations.
- Members of our organization respect the expertise of those in other organizations with whom we have to work.

Interagency success not only depends on motives, but the *training* and *learning experiences* shared with organizational partners. Abilities and skills are necessary to translate intent into action.

- I have had experience working with members of other organizations with whom we collaborate.
- I have participated in interagency training with members of other organizations.
- Employees from our organization are not used to working with people from other organizations and find it hard to do so.

Demographics

Finally, survey items need to be tailored to fit particular organizations. The typical, minimal set of demographic items includes:

- Age
- Gender
- Tenure in the job
- Tenure in the organization
- Level of education
- Job characteristics, such as managerial vs. non-managerial or military vs. civilian.

Conclusions and the Way Forward

Interim Items in Need of Validation

The concept of a capacity for collaboration is a metaphor that has occurred to many theorists and researchers. There is a growing body of literature, and there appears to be some agreement that topics such as social capital, network ties, trust, and incentives are critical. The major need identified by theorists and inductive researchers (e.g., Bardach, 1998) is to operationalize the overarching concept and contributing variables. To systematically understand and to promote more effective collaboration among agencies and organizations, an audit process with valid and reliable instrumentation needs to be created. Generating interview questions, survey items, and going through the processes of refinement, testing and retesting is a tedious, time-consuming job requiring field-based data and critical review by those with expertise in this topic. The interagency level of analysis means that the variety of possible contexts, forms, structures and processes is vast. An audit must be of sufficient generalizability that it can be conducted in a wide variety of contexts, but it must be specific enough to provide actionable insights to organizational leaders.

The items in the database in Appendix A are interim items; they represent a draft of work that needs to be field tested and refined, a process that requires the authors find research sites and, ideally, research partners. While many of the items derive from existing theory and our Phase I research, they have not passed through sufficient empirical hurdles for us to be willing to endorse their validity at this stage of our work. Previous experience of the authors with survey development makes us confident that some items that look excellent will need to be revised; items that look possible will turn out better than we thought, and discussions with client organizations will result in new items. Thus, the tables presented in Appendix A are presented with the following notice: "**This database and its items are an interim version of an ongoing project. Field testing will begin in 2007. Please contact the authors for more recent information on the status of the item bank or to discuss participation in field testing."**

Assessing General vs. Relative Collaborative Capacity

This phase of the project deliberately focuses on the assessment of general collaborative capacity or what might be called “non-relative collaborative capacity.” We do not focus on assessing the collaborative capacity revealed in specific organizational relationships. In other words, the questions are worded so that they can be answered without reference to specific other organization(s). This is not to deny that the capacity (or motivation) to collaborate by Organization A may vary depending on the specific “partner” organizations. But, our working assumption—in need of empirical validation—is that individuals can indeed assess the capacity of an organization to collaborate with a generalized “other.” The items are thus written to focus on the generic capacity of a focal organization (or a focal IA team) to collaborate with others. Again, empirical research is needed to determine how far one can go in advancing theory and better practice without getting into the specific, relative relationships among organizational pairs.

We believe that it is likely that a focus on relative collaborative capacity might reveal that organization A has the requisite capabilities to collaborate with partner B but not nearly as much capacity to collaborate with partner C. As with people, organizations may not be compatible with one another. But such relative collaborative capacity is not reflected in the wording of the questions in Appendix A; the current item set focuses on non-relative collaborative capacity. However specific instructions can be inserted in the design of an audit that identify target “partner” organizations that should be considered when answering questions about collaborative capacity. This, along with very minor modifications of question wording would allow for the assessment of collaborative capacity relative to a specific organization or set of organizations.

Plan for Field Testing, Validation, and Theory Development

We have identified potential partners who are interested in assessing collaborative capacity, and we seek more such partners. It will be important to field test the instrument with organizations that are in different developmental stages. In

other words, some organizations may have only recently initiated the process of collaborating; others may have been collaborating for some time but face the problems of institutionalizing and formalizing the process so that it does not depend on key individuals; and some may have institutionalized their processes. Different lessons can be learned in each of these contexts. We currently seek to focus on several start-up collaborations in the context of Homeland Security and also on an exemplary success story that has been well institutionalized and is more relevant to the Acquisition community.

We should also note that the process of validating items and constructs is also a process of validating and elaborating theoretical constructs. This means that the nuts-and-bolts process of revising and interpreting items through field testing itself generates more coherent and useful ways of thinking about the capabilities and capacities of interagency collaboration. For example, we anticipate developing some preliminary hypotheses about the developmental stages of collaborative capacity as we begin our field testing work with organizations that have different amounts of experience with interagency collaboration. We also expect that we will begin to identify somewhat of a hierarchy of predictors of collaborative capacity because it is unlikely that all factors included in our current model are of equal impact in influencing collaboration. As we proceed with our research, we will be developing a more refined diagnostic process, as well as a more refined understanding of how collaborative capacity develops and ways it can be fostered.

THIS PAGE INTENTIONALLY LEFT BLANK

Bibliography

Adler, P. S., & Kwon, S. (2002). Social capital: Prospects for a new concept. *Academy of Management Review,* 27(1), 7-40.

Bardach, E. (1998). *Getting agencies to work together: The practice and theory of managerial craftsmanship.* Washington, DC: Brookings Institution Press.

Beckhard, R. (1969). *Organization development: Strategies and models.* Reading,MA: Addison Wesley.

Burke, W.W. (1994). *Organization development: A process of learning and changing* (2nd ed.). Reading, MA: Addison-Wesley Publishing Company.

Cummings, T. G. (1984). Transorganizational development. In B. M. Staw & L. L. Cummins (Eds*.), Research in organizational behavio*r (Vol. 6) (pp. 367-422). Greenwich, CT: JAI Press.

Downs, C.W., & Adrian, A.D. (2004). *Assessing organizational communication: Strategic communication audits.* New York: The Guilford Press.

Foster-Fishman, P.G., Berkowitz, S.L., Lounsbury, D.W. Jacobson, S. & Allen, N.A. (2001). Building collaborative capacity in community coalitions: A review and integrative framework. *American Journal of Community Psychology*, 29(2), 241-257.

French, W.L., & Bell, C.H. (1999). *Organization development: Behavioral science interventions for organization improvement* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Galbraith, J.R. (2002). *Designing organizations: An executive briefing on strategy, structure and process.* San Francisco: Jossey-Bass.

Hansen, M.T., & Nohria, N. (2004). How to build collaborative advantage. *MIT Sloan Management Review*, 46(1), 22-30.

Harrison, M.I. (1994). *Diagnosing organizations: Methods, models, and processes* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Hartman, A. & Sifonis, J. (2000). *Net ready: Strategies for success in the E-conomy*. New York: McGraw-Hill.

Hocevar, S., Thomas, G.F., & Jansen, E. (2006). Building collaborative capacity: An innovative strategy for homeland security preparedness. In M.M. Beyerlein, D.A. Johnson, and S.T. Beyerlein (Eds*.), Innovation through collaboration* (Vol. 12) (pp. 263-283). New York: Elsevier.

Hocevar, S., Jansen, E., & Thomas, G.F. (2004). *Building collaborative capacity for homeland security*. Naval Postgraduate School (Technical Report NPS-GSBPP-04-008). Monterey, CA: Naval Postgraduate School.

Huxham, C. (1996). Collaboration and collaborative advantage. In C. Huxham (Ed.), *Creating collaborative advantage* (pp. 1-18). London: Sage Publications.

Kotter, J.P. (1990). *A force for change: How leadership differs from management*. New York: Free Press.

Mankin, D., Cohen, S., & Fitzgerald, S.P. (2004). Developing complex collaboration: Basic principles to guide, design, and implementation. In M.M. Beyerlein, D.A. Johnson, & S.T. Beyerlein (Eds.), *Complex collaborative: Building the capabilities for working across boundaries* (pp. 1-26). New York: Elsevier.

McShane, S.L., & Von Glinow, M.A. (2005). *Organization behavior* (3rd ed.). New York: McGraw-Hill Irwin.

Mowery, D.C., Oxley, J.E., & Silverman, B.S. (1996). Strategic alliances and interfirm knowledge transfer. *Strategic Management Journal*, 17, 77-90.

Nadler, D.A. (1977). *Feedback and organization development: Using data-based methods.* Reading, MA: Addison-Wesley.

Nadler, D.P., & Tushman, M.L. (1980). A model for diagnosing organizational behavior: Applying a congruence perspective. *Organizational Dynamics*, 9(2), 35.

Putnam, R.D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.

Senge, P.M. (1992). Catalyzing systems thinking within organizations. In F. Massarik (Ed.), *Advances in organization development* (Vol. 1) (pp. 197-246). Norwood, NJ: Ablex Publishing.

Seidman, H. (1970). *Politics, position and power: The dynamics of federal organization*. New York: Oxford University Press.

Thomas, G.F. (2005). *Tricare TriWest Collaboration Inventory*. Unpublished document. Naval Postgraduate School, Monterey, CA: Naval Postgraduate School.

United States Government Accountability Office. (2005, October). *Results-oriented government: Practices that enhance and sustain collaboration among federal agencies*. GAO-05-15. Washington, DC: author.

United States Government Accountability Office. (2002, December). *Homeland security: Management challenges facing federal leadership*. GAO-03-260. Washington, DC: author.

Weisbord, M. (1976). Organization diagnosis: Six places to look for trouble with or without a theory. *Group and Organization Studies*, 1(4), 430-447.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 1. Database of Questions

Please contact the authors of this report to obtain further information regarding the database of questions.

THIS PAGE INTENTIONALLY LEFT BLANK

2003 - 2006 Sponsored Acquisition Research Products

Acquisition Case Series

NPS-AM-06-008 Apte, Aruna U.,and Eugene (Joe) Dutkowski. Total Ownership Cost Reduction Case Study: AEGIS Microwave Power Tubes. May 2006.

UMD-CM-05-019 Lucyshyn, William, Rene Rendon, and Stephanie Novello. Improving Readiness with a Public-Private Partnership: NAVAIR's Auxiliary Power Unit Total Logistics Support Program. July 2005.

UMD-CM-05-018 Lucyshyn, William, and Stephanie Novello. The Naval Ordnance Station Louisville: A Case Study of Privatization-in-Place. August 2005.

NPS-CM-04-008 Lucyshyn, William, Jeffrey Cuskey, and Jonathan Roberts. Privatization of the Naval Air Warfare Center, Aircraft Division, Indianapolis. July 2004.

NPS-PM-04-010 Lucyshyn, William, Keith F. Snider, and Robert Maly. The Army Seeks a World Class Logistics Modernization Program. June 2004.

NPS-CM-03-005 Lamm, David V. Contract Closeout (A). September 2003.

Sponsored Report Series

UMD-LM-06-040 Gansler, Jacques S., and William Lucyshyn. Evaluation of Performance Based Logistics. August 2006.

UMD-CM-06-039 Dunn, Richard L.. Contractors Supporting Military Operations. September 2006.

NPS-FM-06-036 San Miguel, Joseph G. and Donald E. Summers. Public-Private Partnerships for Government Financing, Controlling Risk, and Value for Money: The UK Experience. September 2006.

NPS-AM-06-035 Naegle, Brad. Developing Software Requirements Supporting Open Architecture Performance Goals in Critical DoD System-of-Systems. September 2006.

NPS-FM-06-034 San Miguel, Joseph E., and Donald E. Summers. Using Public Private Partnerships and Energy Saving Contracts to Fund DoD Mobile Assets. August 2006.

NPS-AM-06-032 Apte, Uday, Geraldo Ferrer, Ira Lewis, and Rene Rendon. Managing the Services Supply Chain in the Department of Defense: Opportunities and Challenges. July 2006.

NPS-AM-06-031 Hudgens, Lt Col Bryan, Capt Carey Petit, Col Rita Jordan, and Lt Col Leon Mable. Development of Measures of Success for Corporate Level Air Force Acquisition Initiatives. July 2006.

NPS-LM-06-030 Apte, Uday M., Nicholas Dew and Gerald Ferrer. What is the Right RFID for your Service? July 2006.

NPS-FM-06-029 McCaffery, Jerry, and Larry Jones. Reform of Budgeting for Acquisition: Lessons from Private Sector Capital Budgeting for the Department of Defense. September 2006.

NPS-LM-06-028 Ferrer, Geraldo, Uday Apte, and Nicholas Dew. What Is the Right RFID for Your Process? July 2006.

NPS-AM-06-027 Bowman, Dan, Lt Col Timothy S. Reed, Lt Col Bryan J. Hudgens, Maj David Searle. DoD is Not IBM: The Challenges of Implementing Strategic Sourcing in Defense Acquisition. July 2006.

NPS-PM-06-026 Thomas, Gail Fann, Erik Jansen, and Susan Page Hocevar. Building Collaborative Capacity in the Interagency Context. July 2006.

NPS-CM-06-25 Donahue, Capt Kimberly A., Capt Joshua M. Parsons. Government Imposed Constraints and Forecasting Analysis of the M.J. Soffe Corporation. December 2004.

NPS-LM-06-024 Lask, LCDR Gregory R. Advanced SEAL Delivery System: An Analysis of Product Support. July 2006.

NPS-CM-06-023 Pigeon,SMSgt Nanci R., Lt Col Bryan J. Hudgens, Lt Col Ellen C. England, Lt Col Leon A. Mable, USAF (ret.). The Use of Alternative Dispute Resolution Techniques in United States Air Force Environmental Conflicts. July 2006

NPS-PM-06-022 Mark Nissen, Mark, Frank Barrett. Changing Major Acquisition Organizations to Adopt the Best Loci of Knowledge, Responsibilities and Decision Rights. July 2006.

NPS-AM-06-021 Uchytil, Capt Joseph S. Assessing the Operational Value of Situational Awareness for AEGIS and Ship Self Defense System (SSDS) Platforms through the Application of the Knowledge Value Added (KVA) Methodology. July 2006.

NPS-AM-06-020 Buchanan, Cap Steven M., Capt Jayson W. Cabell, Capt Daniel C. McCrary. Acquiring Combat Capability through Innovative Uses of Public Private Partnerships. June 2006.

NPS-FM-06-019 Jankowski, LCDR Patrick, LT Matthew Lehmann, and LT Michael P. McGee. Financing the DOD Acquisition Budget: Innovative Uses of Public-Private Partnerships. June 2006.

NPS-PM-06-018 Barnum, Usher L., Jr. Business Process Re-Engineering: Application for Littoral Combat Ship Mission Module Acquisition. June 2006.

NPS-AM-06-017 Mun, Johnathan, and Thomas Housel. A Primer on Return On Investment and Real Options Analysis for Portfolio Optimization. July 2006.

NPS-AM-06-014 Hatch II, William D. CDR, USN, Charles Gowen, AmerInd/FC Business Systems, and James Loadwick, AmerInd/FC Business Systems. Litoral Combat Ship (LCS) Civilian Aviation Alternative Support Study: Report of Findings and Recommendation. July 2006.

NPS-AM-06-012 Meyer, Jacqueline M. and Sefa Demirel. A Comparative Analysis of the Department of Defense (DoD) Passive Radio Frequency Identification (RFID) Policy and Perspective in Terms of Site Implementations. June 2006

NPS-AM-06-010 Rendon, Rene G. Using a Modular Open Systems Approach in Defense Acquisitions: Implications for the Contracting Process. January 2006.

NPS-LM-06-009 Apte, Uday M., Nicholas Dew and Gerald Ferrer. What is the Right RFID for your Process? January 2006.

NPS-LM-06-007 Mullins, Captain Michael, US Marine Corps, Captain Troy Adams, US Marine Corps and Lieutenant Robert Simms, US Navy. Analysis of Light Armored Vehicle Depot Level Maintenance. December 2005.

NPS-CM-06-006 Cortese, Captain Casey A., US Air Force, First Lieutenant Heather Shelby, US Air Force and Captain Timothy J. Strobel, US Air Force. Defining Success: The Air Force Information Technology Commodity Council. December 2005.

NPS-LM-06-005 Hernandez, Captain Emeterio V., US Air Force and Lieutenant Christopher A. Thomas, US Navy. Investigating the Department of Defense's Implementation of Passive Radio Frequency Identification (RFID). December 2005.

NPS-FM-06-004 Rios, Jr., LCDR Cesar G., US Navy. Return on Investment Analysis of Information Warfare Systems. September 2005.

NPS-AM-06-003 Komoroski, Christine L. Reducing Cycle Time and Increasing Value through the Application of Knowledge Value Added Methodology to the U.S. Navy Shipyard Planning Process. December 2005.

UMD-AM-05-021 Gansler, Jacques S., and William Lucyshyn. A Strategy for Defense Acquisition Research. August 2005.

UMD-CM-05-020 Dunn, Richard. Contractors in the 21st Century "Combat Zone." April 2005.

NPS-PM-05-017 Brianas, Christopher G. Department of the Navy Procurement Metrics Evaluation. June 2005.

NPS-LM-05-016 Doerr, Kenneth H., RADM Donald R. Eaton and Ira A. Lewis. Impact of Diffusion and Variability on Vendor Performance Evaluation. October 2005.

NPS-CM-05-015 Johnson, Ellsworth K. III, Bryan H. Paton, Edward W. Threat, and Lisa A. Haptonstall. Joint Contingency Contracting. June 2005.

NPS-CM-05-013 Schwartz, Brett M., Jadon Lincoln, Jose L. Sanchez, and Leslie S. Beltz. Update of the Navy Contract Writing Guide Phase III. June 2005.

NPS-PM-05-012 Jenkins, Glenn E., and William J. Snodgrass, Jr. The Raven Small Unmanned Aerial Vehicle (SUAV): Investigating Potential Dichotomies between Doctrine and Practice. June 2005.

NPS-AM-05-011 Apte, Aruna U. Spiral Development: A Perspective. June 2005.

NPS-FM-05-009 Jones, Lawrence R., Jerry McCaffery and Kory L. Fierstine. Budgeting for National Defense Acquisition: Assessing System Linkage and the Impact of Transformation. June 2005.

NPS-LM-05-008 Kang, Keebom, Kenneth Doerr, Michael Boudreau, and Uday Apte. A Decision Support Model for Valuing Proposed Improvements in Component Reliability. June 2005.

NPS-PM-05-007 Dillard, John T., and Mark E. Nissen. Determining the Best Loci of Knowledge, Responsibilities and Decision Rights in Major Acquisition Organizations. June 2005.

NPS-AM-05-006 San Miguel, Joseph G., John K. Shank, and Donald E. Summers. Navy Acquisition via Leasing: Policy, Politics, and Polemics with the Maritime Prepositioned Ships. April 2005.

NPS-CM-05-003 Rendon, Rene G. Commodity Sourcing Strategies: Supply Management in Action. January 2005.

NPS-CM-04-019 Lord, Roger. Contractor Past Performance Information (PPI) In Source Selection: A comparison Study of Public and Private Sector. December 2004.

NPS-PM-04-017 Matthews, David. The New Joint Capabilities Integration Development System (JCIDS) and Its Potential Impacts upon Defense Program Managers. December 2004.

NPS-LM-04-014 Apte, Aruna. Optimizing Phalanx Weapon System Lifecycle Support. October 2004.

NPS-AM-04-013 Frank, Raymond (Chip). Business Case Analysis and Contractor vs. Organic Support: A First-Principles View. September 2004.

NPS-LM-04-006 Doerr, Ken, Donald R. Eaton, and Ira Lewis. Measurement Issues in Performance Based Logistics. June 2004.

NPS-CM-04-004 Espine, Lieutenant Commander Joseph C., and Lieutenant Commander Chong Hunter. Update of the Navy Contract Writing, Phase II. June 2004.

NPS-CM-04-002 Burger, Major Kenneth A., Captain Brian . Marine Corps Contingency Contracting MCI. Revised Manual. December 2003.

NPS-CM-04-001 Dean, Captain Chad E., and Second Lieutenant Nathan P. Vosters. Update of the Navy Contract Writing, Phase I. December 2003.

NPS-CM-03-006 Tudor, Ron B. Auto-Redact Toolset for Department of Defense Contracts. September 2003.

NPS-AM-03-004 Boudreau, Michael W., and Brad R. Naegle. Reduction of Total Ownership Cost. September 2003.

NPS-AM-03-003 Dillard, John T. Centralized Control of Defense Acquisition Programs: A Comparative Review of the Framework from 1987-2003. September 2003.

NPS-CM-03-001 MBA Team. Transformation in DoD Contract Closeout. June 2003.

Working Paper Series

NPS-LM-06-013 Dew, Nicholas. Cookies for the Real World: Assessing the Potential of RFID for Contractor Monitoring. May 2006.

NPS-PM-06-002 Dillard, John T. When Should You Terminate Your Own Program? November 2005.

NPS-AM-06-001 Naegle, Brad. Developing Software Requirements Supporting Open Architecture Performance Goals in Critical DoD System-of-Systems. November 2005.

NPS-AM-05-010 Zolin, Roxanne V., and John T. Dillard. From Market to Clan: How Organizational Control Affects Trust in Defense Acquisition. June 2005.

NPS-AM-05-005 Boudreau, Michael. Cost as an Independent Variable (CAIV): Front-End Approaches to Achieve Reduction in Total Ownership Cost. June 2005.

NPS-AM-05-002 Yoder, Elliott Cory. The Yoder Three-Tier Model for Optimizing Contingency Contracting Planning and Execution. December 2004.

NPS-AM-05-001 Yoder, Elliott Cory. Engagement versus Disengagement: How Structural & Commercially-Based Regulatory Changes have Increased Government Risks in Federal Acquisitions. November 2004.

NPS-CM-04-016 Stevens, Brett. An Analysis of Industry's Perspective on the Recent Changes to Circular A-76. October 2004.

NPS-CM-04-012 Rairigh, Beth. Air Force Commodity Councils: Leveraging the Power of Procurement. September 2004.

NPS-CM-04-011 Engelbeck, R. Marshall. Using Metrics to Manage Contractor Performance. September 2004.

NPS-LM-04-009 Eaton, Donald R. Improving the Management of Reliability. August 2004.

NPS-AM-04-007 Naegle, Brad R. The Impact of Software Support on System Total Ownership Cost. July 2004.

NPS-LM-04-003 Eaton, Donald R. Enablers to Ensure a Successful Force Centric Logistics Enterprise. April 2004.

NPS-CM-03-002 Parker, Christopher and Michael Busansky. Transformation in DoD Contract Closeout. June 2003.

Acquisition Symposium Proceedings

NPS-AM-06-011 Acquisition Research: Creating Synergy for Informed Change. April 2006.

NPS-AM-05-004 Acquisition Research: The Foundation for Innovation. May 2005.

NPS-AM-04-005 Charting a Course for Change: Acquisition Theory and Practice for a Transforming Defense. May 2004.

Technical Reports

NPS-GSBPP-03-003 Dillard, John T. Centralized Control of Defense Acquisition Programs: A Comparative Review of the Framework from 1987-2003. September 2003.

NPS-GSBPP-03-004 Boudreau, Michael W., and Brad R. Naegle. Reduction of Total Ownership Cost. September 2003.

Presentations, Publications and External Forums

Rendon, Rene. “Commodity Sourcing Strategies: Supply Management in Action.” Published as “Commodity Sourcing Strategies: Processes, Best Practices, and Defense Initiatives.” *Journal of Contract Management* 3, no.1 (2005): 7-21.

Doerr, Ken, Ira Lewis, and Donald Eaton. “Measurement issues in Performance Based Logistics.” *Journal of Public Procurement* 5, no. 2 (2005): 164-186.

Eaton, Donald, Ken Doerr, and Ira Lewis. “Performance Based Logistics: A Warfighting Focus.” *US Naval Institute Proceedings.* (In Press).

Doerr, Ken, Donal Eaton, and Ira Lewis. “Performance Based Logistics.” Presented to the International Defense Acquisition Resource Management Conference. Capellen, Luxembourg, 2004.

Kang, Keebom, and Ken Doerr. Workshop: Metrics and Performance Evaluation in Performance Based Logistics. Presented at Future Naval Plans & Requirements Conference. San Diego, CA. October 2005.

Boudreau, Michael, and Brad Naegle. “Total Ownership Cost Considerations in Key Performance Parameters and Beyond.” *Defense Acquisition Research Journal* 38, no.2 (2005): 108-121.

Boudreau, Michael, and Brad Naegle. Workshop: Setting up Acquisition for Total Lifecycle Supportability Performance. Presented at the Institute for Defense and Government Advancement Conference: Total Lifecycle Systems Management. Arlington, VA. 2005.

Kang, Keebom, Ken Doerr, Uday Apte, and Michael Boudreau. “Decision Support Models for Valuing Improvements in Component Reliability and Maintenance.” Submitted to the Journal of Defense Modeling and Simulation in July 2005 for possible publication. Currently the article is being reviewed by referees.

Franck, Raymond (Chip). “Business Case Analysis and Contractor vs. Organic Support: A First–Principles View.” Presented at the Western Economic Association International Annual Conference. San Francisco, CA. 5 July 2005.

Dillard, John, and Mark Nissen. “Computational Modeling of Project Organizations under Stress.” In review.

Dillard, John. “Centralization of Defense Acquisition Programs.” Accepted for publication in the Defense Acquisition Research Journal (2005).

Nissen, Mark E., and John Dillard. “Computational Design of Public Organizations.” In review.

IS4710 - Qualitative Methods. This research-seminar course has integrated the results of the FY05 Dillard-Nissen research into the students' course project.

Dillard, John T. "Centralized Control of Defense Acquisition Programs." IAMOT 2004 - New Directions in Technology Management: Changing Collaboration between Government, Industry and University. 3 -7 April 2004.

Dillard, John T. "Centralized Control of Defense Acquisition Programs: A Comparative Review of the Framework from 1987-2003." BPP Research Colloquium. 25 November 2003.

Copies of the Acquisition Sponsored Research Reports may be printed from our website www.acquisitionresearch.org

Initial Distribution List

1. Defense Technical Information Center 2
   8725 John J. Kingman Rd., STE 0944; Ft. Belvoir, VA 22060-6218

2. Dudley Knox Library, Code 013 2
   Naval Postgraduate School, Monterey, CA 93943-5100

3. Research Office, Code 09 1
   Naval Postgraduate School, Monterey, CA 93943-5138

4. Robert N. Beck 1
   Dean, GSBPP
   555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

5. Keith F. Snider 1
   Associate Professor, GB/Sk
   555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

6. James B. Greene 1
   Acquisition Chair, GB/Jg
   555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

7. Bill Gates 1
   Associate Dean for Research, GB/Gt
   555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

8. Gail Fann Thomas 1
   Associate Professor, GSBPP
   555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

9. Susan Page Hocevar 1
   Associate Professor, GSBPP
   555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

10. Erik Jansen 1
    Senior Lecturer, GSOIS
    555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

11. Karey L. Shaffer 1
    Program Manager, Acquisition Research Program, GB/Ks
    555 Dyer Road, Naval Postgraduate School, Monterey, CA 93943-5000

Copies of the Acquisition Sponsored Research Reports may be printed from our website www.acquisitionresearch.org